



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

V.—*An Essay upon Mr. Stewart's Explanation of certain Processes of the Human Understanding.* By the REV. JAMES WILLS, A. M., M. R. I. A.

Read February 14, 1842.

CHAPTER I.

ARGUMENT STATED, AND MR. STEWART'S EXAMPLES ANALYZED, WITH A FEW ADDITIONAL CASES WHICH PRESENT THE SUBJECT UNDER A DIFFERENT ASPECT.

IT is some years since I was very much struck by an argument of Mr. Stewart's with which many here are likely to be familiar : he endeavours to prove from several cases, that the mind, from habit, acquires a rapidity in the succession of distinct thoughts, so great as to escape the consciousness, a proposition which he endeavours to prove by examples, and from which he draws some important conclusions. Considering that all his instances are such as seem essentially to involve the principle of consciousness, I found it hard to acquiesce in his theory. But it was impossible not to admit that if Mr. Stewart has correctly stated his facts, the inference is in no way to be avoided. And I failed at the time to observe, that all these facts (as I shall presently show) are themselves results of a very complex nature, and requiring a minute analysis, before they could become the fair grounds of such inferences as Mr. Stewart's : I, therefore, with some reluctance, dropped a subject which seemed to offer some curious approaches to a more intimate knowledge of our intellectual nature. The popularity which Mr. Stewart's theory has acquired (chiefly owing to his very curious and interesting exposition of the phenomena of dreaming) has led me to reconsider the subject with more deliberate attention : and I now venture to advance a statement of the inferences which I propose to substitute for Mr. Stewart's.

To express Mr. Stewart's theory in his own language, it is this, "The won-

derful effect of practice, in the formation of habits, has been often and justly taken notice of, as one of the most curious circumstances in the human constitution. A mechanical operation, for example, which we at first performed with the utmost difficulty, comes in time to be so familiar to us, that we are able to perform it without the smallest danger of mistake, even while the attention appears to be completely engaged with other subjects. The truth seems to be, that in consequence of the association of ideas, *the different steps of the process present themselves successively to the thoughts, without any recollection on our part, and with a degree of rapidity proportioned to the length of our experience*; so as to save us entirely the trouble of hesitation and reflection, by giving us every moment a precise and steady notion of the effect to be produced." According to this statement, a succession of acts of *attention* and *volition* are supposed to pass through the mind with a rapidity too great to be perceived, and for which, *therefore*, there *can* be no argument but the *necessity* of the thing; because, according to Mr. Stewart, no other will explain the phenomena. These notions are so involved in the entire of Mr. Stewart's Theory of the Mind, that were I to attempt a full analysis of his reasoning it would necessarily lead me into a very prolonged discussion, which should commence by a systematic exposition of those elementary views of the mind and its functions, which I conceive to be entangled with many errors by Mr. Stewart. The difficulty attendant on such an undertaking would be enormous: for I must confess that I cannot so easily satisfy myself as Mr. Stewart and other writers on the same subject seem to have done, with any definition of those elementary processes of the mind, on which so much reasoning is built.

The elementary fallacy in which I conceive Mr. Stewart's error to have originated, is comprised in his very first step. It is difficult to speak satisfactorily of a function so purely elementary as *consciousness*. Like light, it is chiefly apprehended by reflection from surrounding things: but it is not hard to point out the mistake which is implied in Mr. Stewart's view. He fails to observe that the mind apprehends by *wholes* before it perceives by *parts*. Consciousness, as it may be described (I do not pretend to define), appears to be the *sum of sensations and apprehensions* of whatever nature, which constitute the whole state of mind at any moment. The fallacy contained in Mr. Stewart's first examples, consists in an implication that every part of this aggregate is separately

perceived. Had he distinctly asserted this proposition, he would have quickly seen his error, but he takes it for granted, and goes on to applications in which it misleads him. There is, in those who are in a state of consciousness, at all times a certain aggregate of things presented to the perception. Of these, some may become more prominently the objects of attention, and the rest will invariably, in the same proportion, become vague and indistinct. The perception of individual parts of this vague *whole* will, *in general*, not be separately recollected, because they have not been *separately* observed; and not, as Mr. Stewart assumes, because the observation has been too rapid. There is a process, it is true, by which, in a certain class of cases, the mind can recal and analyze a large combination of things; but this is not what Mr. Stewart has in view.*

I shall presently be in a condition to examine more closely some of Mr. Stewart's reasonings on this point, but I shall now proceed by a more simple and far shorter method, which Mr. Stewart himself has the great and signal merit of having pointed out, and in some measure exemplified. Instead of adopting definitions, and launching out upon the vague ocean of pure reasoning, I shall essay the humbler adventure of a coasting voyage along the safe shore of known and familiar facts; the only method that I suspect will be ever found to lead to any satisfactory result, in a science of which the first elements are so little tangible to strict observation as those of the mind.

The nature then of the analysis to which I beg to call the attention of the Academy is strictly this; I shall state in order a numerous train of well known and most common facts, in all of which the same process can be easily observed, and which will exhibit this process in a variety of aspects, so that it may thus appear what method of explanation will best agree with all. Among these I shall include Mr. Stewart's cases, and endeavour to show that his explanation, which is specious enough on a confined view of examples selected for the purpose, is negatived entirely when referred to other cases which cannot be regarded as specifically different.

The first case which Mr. Stewart states, with an explicit reference to the subject of this essay, has the advantage of offering a passing view of another

* Some of the examples by which Mr. Stewart illustrates his views concerning consciousness, perception, and attention, cannot be here satisfactorily discussed, until I shall have first fully explained the principle to be asserted in this essay. I shall, therefore, revert to them further on.

philosopher, who, though far less reasonable than Mr. Stewart upon the subject, offers the advantage of a different observation of the same phenomena.

Mr. Stewart quotes from Hartley his first example, which is that of a person playing upon the harpsichord. The fingers of the player perform a variety of movements from key to key, each of which, as Hartley observes, is at first an act of distinct *volition*. By degrees, however, the motions (according to his language) cling to each other, and the acts of volition grow less and less, until at last they become evanescent. On this case Mr. Stewart says, “thus in the case of performance on the harpsichord, I apprehend that there is an act of the will preceding every motion of the finger, although the player may not be able to recollect these volitions afterwards, and although he may, during the time of his performance, be employed in carrying on a separate train of thought.”

In supporting this proposition, Mr. Stewart observes, that the “player may vary his rate of movement, and play so slowly as to be able to attend to every separate movement :” and on this very justly observes Hartley’s unreasonableness in assuming *two different* rules of mental action for the quick and the slow playing.

It is remarkable that Hartley’s reasoning actually terminates in the *vulgar notion* upon that class of acts commonly called mechanical, from which his instance is drawn ; a circumstance which at least seems to show that he has carefully observed, and correctly described the *phenomena*, though in his attempt to explain them he was (as usual) misled by a theory. The fact that the distinct acts *are not separately* the object of any *conscious* volition or attention, he recognized by direct *observation* : it was perhaps rash to infer the absence of these elements : but if Hartley knew any thing about the art from which he exemplified his reasoning, he must also have observed, that these separate attentions and volitions were in certain movements of the player *necessarily impossible*, and that, therefore, *some other law must be sought for* : the *automatic* movement is *very like* the truth, and *though liable* to Mr. Stewart’s objections, would be far easier to support than his own solution. I trust to convince the Academy that there is no proof of the separate volitions *assumed by* Mr. Stewart, in either quick or slow movements. *Volitions* there must be, but executed under the intervention of another process ; a process, it is true, still to be referred to the effect of HABIT,

but carried on in the progress of its operation to a much more complete result than that contemplated by Mr. Stewart.

Let me call your attention to the actual instance: two or more notes are marked for the right hand to strike *together*, and perhaps as many more for the left, *all at the very same time*, and by *one movement* in which several others, all distinct in their effect and intent, are absolutely and *indivisibly combined* into one act: a single impulse giving simultaneous movement and synchronous directions to several members, and constituting, therefore, one conception in the mind of the mover. The difference between such a process and the most rapid succession that the nature of the thing can admit of,—say the vibrations of sound,—is as great as the difference between the mere confusion of substances called *mixture*, and the substantial union caused by chemical affinity: as that substance is one, so is the *effect* in this case absolutely one, executed by one act, governed by one *conception*—a single *complex idea*, the result of association. I agree with Mr. Stewart, or rather with the common notion, in assigning this complex act to habit; but habit acting, not by mere acceleration, but by a maturer process to which it is always tending, and which forms its main department of the mind; the combination of ideas which have been frequently presented, into recognized groups, of which each, losing its features of aggregation, acquires an integral and distinct identity of its own. Though I am anxious to avoid the adoption of any system of metaphysical language, yet it will be convenient to keep in view, that the results here described are the same which are called *complex ideas* by Mr. Locke, which term I shall retain through this Essay.

Let us dwell for a moment longer on this first case, and take one glance at the general progress of the performer in the *acquisition* of the art by which those complex movements are effected.

At first those signs must be *separately observed* by the learner, and the answerable movements separately made; two notes cannot be at the same instant *observed*, still less their movements (altogether amounting to four distinct acts of thought for one simultaneous act of the hands), be performed; though all are fully recognized, no velocity of will and attention can impart the simultaneous execution required: the movements can only come separately, and, *therefore*, cannot operate together. Slowly, however, and by continual repetition of the same efforts of attention, the combinations begin to be *seen as combinations*, and be-

coming virtually *single conceptions* are executed by *single movements*. One act of volition can direct the most complicated movement when it is once thus conceived. And it is a very remarkable and highly confirmatory fact, that the slightest attempt to direct the attention to any of the separate components or signs, would instantly disconcert the most practised skill. This Mr. Stewart would have seen and profited by seeing, had he not selected examples of which the component acts are not *necessarily* simultaneous. A performer on some kind of instrument requiring a succession of *uncompounded* movements, may undoubtedly, by playing more slowly, attend to his separate touches, but *then* he is not a case in point : for that species of acceleration of the mental processes which can be *actually observed*, is not that for which Mr. Stewart would contend. The point here to be established, is not that the mind may not operate with any imaginable velocity, but that the assumption of an acceleration so great as to escape all consciousness, is unnecessary for certain purposes, and a departure from an observable and well known process. It is one thing to assert that the mind can by distinct steps follow and regulate certain rapid changes of motion, and another to assume that this process may become so rapid, as to be impossible for the apprehension to follow it distinctly. The real difficulty which I shall have to surmount is this, that there appears in this case, and some others, to be two distinct trains of thought going on. I mean, further on, to show that this is but apparent, and I shall at the same time show that Mr. Stewart's assumption vastly aggravates this difficulty.

A curious instance of the effect of separate attentions and volitions in cases of complex action is not very uncommon. When a person of a very anxious temper is called on for an exhibition of skill in some act which requires very complex acts of mind, it sometimes occurs, that extreme anxiety to succeed forces the attention from the common process, as here described, to an intimate notice of the separate acts of the combination : and the links of complex volition are thus broken, so that embarrassed movements follow. The best illustration of this will occur farther on.

This last circumstance is most frequently observable in that extensive class of acts, which, in popular phrase, we call *mechanical*. They are, indeed, nearly decisive against Mr. Stewart ; for, while they consist, for the most part, of complex movements, the separate acts of which they are framed have *never been recognized*

in separation, and cannot be taken asunder by any power of attention. Of these, every person has his own share—one instance will be enough ; that, suppose of unlocking some well known lock, which has become, by habit, so familiar, that it can be effected in the dark. Now let any person who is conscious of any such habit try to substitute his *reason* for the habit ; he will at once, and I would say inevitably, fail ; his *volitions* and *attentions* will put his hand astray. In fact, the operation of habit was to frame the *conception* of a movement, out of an actual movement which, by the *help of the sight*, was first repeatedly performed. Of such movements of frame and thought, are composed the *entire* actions of the player's hand, the dancer's foot, or the reader's eye. And here it may be useful to observe and bear in mind, that in all these cases, of every description, there exists at the same time a distinct succession of acts of will and attention, sometimes continuous and sometimes changing, but always fully apprehended by the consciousness ; and that the mind is in fact thus guided from change to change, and from one complex act to another ; while these latter alone are the processes in question here. According to Mr. Stewart, both must be going on together without intermission, at different rates, and having different objects ; taking, for instance, the player on the harpsichord, we have the movements of the hands, the interpretation of the notes, the relative intent of each to a certain whole harmony, the moral sentiment belonging to the melody. Now had Mr. Stewart been asked to explain this medley of concurrent processes, he must have been forcibly conducted to the very theory which is here proposed to be substituted for his.

But I turn to Mr. Stewart's next example, suggested by a passage in the Latin writings of Doctor Gregory, who applies a similar example to prove or illustrate the rapidity of muscular action, for which he refers to the vast number and variety of intonations produced by muscular movements in the pronunciation of words. With the Doctor's application I am not concerned. Mr. Stewart says, "when a person, for example, reads aloud, there must, according to this doctrine, be a separate volition preceding every letter." Now, I do not here state Mr. Stewart's very indirect reasoning, because it consists altogether in combating objections which have not, I believe, been advanced, viz., objections to the *possibility* of the extreme rapidity of mental action required by the process he assumes. I do not, for *my part*, deny the fact of such *possible* velocity of the thinking power, though I see no force in Mr. Stewart's *reasons* for it. I only

affirm that it is not proved by any of the alleged examples, and is not necessary for their explanation ; and into the *assumption* of such a necessity, the entire argument of Mr. Stewart may be resolved.

This example is very convenient for illustration ; I will, therefore, examine it fully. Now let it be distinctly kept in view, that though the process of reading is in both systems inferred to be the result of a power attained by *habit*, the difference is as to the nature of that attainment. Mr. Stewart's solution requires that it should be by *accelerating that succession of acts*, by which every letter of the word is *separately* noticed. If this be true, then, it is evident that the facility can in no way depend upon perceiving the combination, as it is the principle that every separate part must be *antecedently* recognized, and the perception of the combination is but consequent. *Therefore, it is quite immaterial how strange the order in which letters are combined*, when they are separately so far *known* as to be instantaneously recognized. Now this can be tested. If any reader who is sufficiently interested in the matter for an experiment, will take the trouble to write out a few lines of new combinations of letters, forming words of the ordinary number of letters, or get it done by another, and then try his skill in reading those words with the usual rapidity ; he will immediately discover that, however expert he may consider himself to be, he will be compelled to go back to the old nursery discipline of *spelling*. Those extremely rapid attentions and volitions will be found to fail when they should be efficient, if the assumption of Mr. Stewart (for, after all, it is no more) be correct. Here, again, I might pause to dwell on the consequences of Mr. Stewart's assumption. The same law which demands successive distinct notices of the letters, essentially requires an equally distinct and separate succession of perceptions of the several parts which form the shape of the letter. The letters taken separately have each a sound different from their syllabic effect, and this again is variously modified according to the combination. Then comes to be recognized the sense which a word acquires from context ; and lastly, the train of reason in which the intellect seems to be wholly engaged. If *all* these several trains are to be separately noticed, according to Mr. Stewart's law, it is evident what a complication of wholly distinct trains of thought must be simultaneously proceeding ; but if Mr. Stewart should stop at any point short of this, it is plain that his whole theory fails ; the explanation he must substitute at that point may serve as well for the whole ; the *neces-*

sity of the assumption no longer exists. Let me now call the attention of the Academy to the law of progress, by which the requisite facility is actually attained, both in this and all the other cases to which Mr. Stewart's theory of acceleration can be applied.

So long as a direct and separate conscious attention is required to each of the several letters forming a word, the process is that of *spelling* only ; the components are separately and successively noticed, but the result (a wholly different object of thought) is not perceived.

How, then, does the mind proceed ? It slowly, and by much discipline of thought and repeated efforts, acquires a stock of *syllabic* and *vocal* associations ; that is, it acquires a set of complex ideas and *represented* sounds. In these, it no more separately notices the separate parts of the syllable than the separate parts which constitute *the form of the letter*. And let it be observed, that in difficult handwriting, it is *by the syllable that the letter is known*, rather than the converse process. Again, it is pretty well known, that in correcting the press, it is exceedingly difficult to acquire the habit of perceiving literal errors ; while compositors in printing offices have been heard to remark an occasional difficulty in reading words and sentences, from their habit of *attending* to the letters.

Just in proportion to the expertness of the reader, and his intimate acquaintance with written language, *the combinations* become more extended ; and, in consequence, the number and extent of the parts *which escape notice* also increase ; as the letter became lost in the syllable, so the syllable becomes lost in the perception of the word. Words acquire their visible symbols, and are discerned in such ill-formed scrawls, that no letter could be separately recognized ; here it is evident that the general form of the word is enough for the mind. Even *common conventional forms of sentences* are read with one single act of thought, forming but one idea, registered by use ; and if any one wants an illustration, I will refer him to the familiar fact, that in reading easy and idiomatic language, the omission of words is often unperceived. The omission is supplied by the mental eye ; it has become *a portion of a known whole*. To complete our view of this case, a written word becomes identified with the *meaning* of which it is the visible symbol. By a further extension, a sentence becomes similarly identified with a process of thought. Every one possesses a certain range of thought, all of which habit has thus symbolized. And this range is various in its scope and

breadth in different minds. Present any one with a wholly novel combination, and he must pause to analyse.

The facts so far observed are no more than an analysis of the process of learning. The scholar slowly acquires a class of complex ideas, called syllables; from these he acquires another more compounded, as they coalesce into another class called words. To this I may add, that, as ordinarily takes place in our complex ideas, the combination is entirely (or, to a great degree) different in character from the parts of which it is primarily composed. But, of this there are better examples; the sounds of the letters are to *some* extent preserved in most words. Another reason why the example was calculated to mislead is worth notice,—in speech, the *sounds* of most words are necessarily *successive*; and this alone might tend to conceal the simultaneousness of the mental act. But it will be at once recollected that, in reading, the eye has commonly passed over many words, before the tongue has performed its office.

The general inference is this,—that by habit, groups of *signs*, of *movements*, of *facts*, *thoughts*, *sensations*, or *phenomena*, acquire certain relations to each other; and these being acquired, it is the *combination* alone that becomes the object of thought.

The parts come simultaneously to the apprehension or sense; they do not even necessarily require to be *complete*; it is enough if the *character* is kept. Hence the deceptions in drawing—the faces in the fire, and the innumerable illusions of the eye and ear; and, perhaps, all the senses.

I think that some more simple illustration of these facts may be satisfactory. Mr. Stewart employs several, but for the most part they are not sufficiently familiar to convey much in the way of illustration. Before I proceed to their analysis I shall, therefore, endeavour to apply the same investigation to some very common and familiar acts, with which most persons must be acquainted. In first learning to ride, there are certain niceties of posture and action, but still of a very simple and easy nature, to be simultaneously attended to. These the finished equestrian (unless he be a riding master) performs unconsciously, and perhaps has forgotten in their separate forms. A simple volition executes for him a compound posture of movement. But, look at the tyro, he learns in a few minutes all the simple rules that are to be taught; but he cannot govern the gallop, or ride skilfully and with a firm and graceful seat over the bar or wall.

He forgets the leg, while attending to the inclination of the body ; and the hand neglects its office, while he thinks of his feet ; the saddle, bridle, stirrups, whip, and spurs belong to different systems, and war with each other, and the idea of preserving a graceful balance obliterates them all. Now, as the idea of succession is here *excluded*, and as the equestrian must keep all together, or roll in the dust, the process becomes more clearly indicated ; he must necessarily acquire a *position of will* or attention, of which all these minutiae are the components.

In shooting, there are three acts to be executed simultaneously—the motion of the gun, of the eye, and of the finger ; they separately present no difficulty ; the young sportsman is, however, aware how hard it is to think of them together ; the veteran executes them as a simple act conceived by the will, and performed by the members. But this example offers a *side-glance* at the process : for in shooting there is an obstacle very often found from the operation of extreme anxiety to hit : the immediate effect of this is to cause a *minute attention to the means*, so that the *ordinary* act is thus interfered with. The complex volition is resolved into its component parts, and while the anxious marksman is securing some part of accuracy, he neglects some other. The sure marksman does not think of any methods ; but hits without knowing how it was done : his *gun* seems to have learned its part, and comes up to his mark : he may tell you, if you ask, that he never takes an aim. The fact is, that men do not recollect, and often cannot find out the component ideas involved in their commonest acts : they act with a single effort complex in its motions, but uniform and *one* in the impulse of the mind.

It would be tedious to apply, at detailed length, the same reasoning to all the examples given by Mr. Stewart : but it is fit and just to touch upon them ; in order to *indicate* at least their connexion with the general process. They may all indeed suggest much, which I shall not notice until further on, when I shall reach the more general statements which I think to be the results of this view.

The case of an *expert accountant* is easily apprehended. The constant habit of arranging numbers into groups, each group indicating a certain sum, is the same process as that by which letters combine into words having each word a certain sense. This is too simply obvious to dwell upon.

But I would here call your attention, by the way, to the obvious difficulty, which makes the conception of all *unhabitual* operations very nearly impossible to the

human mind. In truth, it is only when the habit is *actually acquired* that any idea of the act can be realized to conception; and it then escapes the powers of distinct analysis. But on this point I shall only need to remind you that the same difficulty must exist, however the matter be explained. It belongs not to the solution, but to the fact.

There is perhaps more real difficulty affecting the case of the jugglers, which is noticed by Mr. Stewart. And the more, because, as in many acts of the mind, it is in some degree entangled with *other laws of action*. Yet, so far as the main point, it is not really difficult to explain. The eye and hand, with all their involved rapidity, are still kept under the unerring government of a single conception of a complex continuous movement, every part of which is together present to the mind. Were it not for this, indeed, it would not be difficult to prove that this, and all other similar feats, would be utterly impracticable. A distinct interference of volition would arrest the juggler's flying and circling balls; as it would precipitate the rope dancer, another of Mr. Stewart's cases, from his dangerous height. In this case the movement and the balance are preserved by not thinking of the emergency of the instant: but yielding to the constant action of a conception and habitual impulse, which have been called mechanical, with a just regard to analogy, because they exclude the uncertainty of the deliberate and voluntary processes of the mind.

There is withal a distinction which I have hinted, but with which I did not wish to complicate the subject, which demands notice. The cases which I have referred to, as well as the numerous ones which might be mentioned, all fall into two general classes: that of *instantaneous* acts which present no difficulty, and lead the investigation with the simplicity of self-evidence to the nature of the operation; and those which, being *continuous*, appear at first less reconcileable to the solution which explains them into a single idea. This difficulty (if such it should be called) is but specious: there is no reason against the supposition of one idea being held for any length of time, which the purposes in question require. I am no more bound to the assumption of a single instantaneous process than Mr. Stewart. I am not bound to disprove, that habit facilitates, and therefore accelerates any *constant* succession of ideas: but the inference is as to the *result*, when this *succession has apparently ceased*. And this result, according to the view here explained, is simply this, that the *limit* of such acceleration is a *coincidence*.

A result which, if this very faulty method of statement were to be allowed, would amount to something different from the metaphysical asymptotes, involved in Mr. Stewart's indefinite acceleration.*

There is one example brought forward by Mr. Stewart among the statements by which he is first led to the conclusion which I have been examining in this essay. I could not have noticed it much sooner without anticipating the inferences at which I have now arrived. The following is Mr. Stewart's statement : "It has been proved by optical writers, that in perceiving the distances of visible objects from the eye, there is a judgment of the understanding antecedent to the perception. In some cases this judgment is founded on a variety of circumstances combined together,—the conformation of the organ necessary for distinct vision ; the inclination of the optic axis ; the distinctness or indistinctness of the minute parts of the object ; the distances of the intervening objects from each other, and from the eye ; and, perhaps, on other circumstances besides these : and yet, in consequence of our familiarity with such processes from our earliest infancy, the perception seems to be instantaneous ; and it requires much reasoning to convince persons unaccustomed to philosophical speculations that the fact is otherwise." I shall not here dwell on the very equivocal language used by Mr. Stewart. The purpose for which he uses the example is, however, such as to imply the more objectionable of two senses in which I might take his assertion of a "judgment of the understanding antecedent to the perception ;" that is, that *antecedent* to the perception some distinct exercise of reason, referring to the separate incidents of the actual perception, occurs. In this sense, the mere statement is a sufficient reply ; the notion conveys an utter absurdity. If, however, Mr. Stewart simply means the process of the understanding, by which inferences respecting the distances of visible objects have been gradually obtained ; so that a judgment, grounded on such reasonings as he has stated, goes before and modifies the perception, forming, in accordance with his views, an antecedent part of it ; while the extreme rapidity of the mind prevents any consciousness of the distinctness in time between the two processes ; his fallacy is certainly less glaring, but I must observe, that it only becomes so by simplifying the assumed process. Now,

* The method is faulty, because it confuses two very distinct classes of phenomena : the aggregate perceptions of mere *consciousness*, and the complex formations of *association*.

the fact is, that the species of reasoning to which Mr. Stewart refers the judgment *has no existence in any case*. The reasons not only never occur to the understanding, but are not to be found by it, unless in the case of opticians, who are themselves so little aided by their reasons, that they have long disputed as to the means according to which vision is accompanied by a judgment of distance. The theory here stated reduces this question to a very simple and obvious law—the same long ago stated by Mr. Locke in his chapter on the Association of Ideas. By habit we are enabled to understand our perceptions as the indications of external things; the import of a habitual perception demands no reasons of any kind; it is become a part of it.* As the eye approaches or recedes, the appearances of things uniformly alter; and as the mind grows accustomed to these alterations, it insensibly learns to translate them into the constant fact. Should any occasion of doubt arise, the reasoning then steps in; it is, however, seldom derived from the laws of vision. When the judgment is not involved in the perception, it *follows* it. The artist whose business it is to imitate the appearances of things, imposes on the perception, by producing the same indications in a different way; it is then that the judgment becomes *antecedent*, and that the law of the appearances must be ascertained. In the common exercise of vision, distance is recognized as every other object of sight which constant recurrence has made familiar. By habit, the eye, ear, and all the senses acquire their proper scales of adaptation—a law involved in every movement of the frame, in every living thing.

There is another class of common facts, very curiously illustrative of the conclusion here aimed at. I mean the numerous *errors* arising from our tendency to combine, or from the habitual combinations of every individual. These, from their nature, must be mostly peculiar, and even singular. Every one may recollect some case in his own experience, and it is but a chance if any instance which one person may offer will have come within the observation of another. An instance may, however, be good for illustration. I recollect that once, on looking at a picture which represented the interior of a cottage, with very unusual force and truth, to have observed that the flame of the fire seemed to have the same quivering motion always accompanying the kind of flame represented. Now this could

* The perception is itself a complex state of mind; it is composed of certain sensations, and certain judgments.

not be the result of any *real* perception, but is easily explicable by the process already described ; the form, hue, and motion of the flame had been so associated, that the incident wanting in the representation was supplied, before the judgment could come into operation.* Of this nature are those cases also, already slightly adverted to, of faces framed by the imagination out of accidental lines. Let me dwell a moment on this, for it is one of a large and diffusive class of results, to all of which the same explanation will apply. I mean that class of expressions and effects which must in part be referred to the fancy of the observer. The expression of the human countenance offers an instance in which several varied qualities of human character seem combined with certain dispositions of form, in such a manner, that while the expression is instantly presented to the observer, he can in few instances, and then but partially, and by much nicety of observation, ascertain the precise arrangements of feature to which the characteristic expression is due. I shall not encumber the case by an analysis of the origin of such combinations ; it will be enough for the present purpose to observe, that the acquired tendency to read such undistinguished elements into meaning must be very deeply fixed ; to all purposes, it might be considered as instinctive. For, while all can at once see and designate an ordinary expression, which is the result of certain lines of feature, the artist alone can discriminate the characteristic curve, and reproduce the effect on his canvass. But now observe the consequence of the associating tendency,—the strong prepossession which conveys ideas of expression from lines indistinctly discerned, will actually select and attach similar expression to similar lines, when they appear in any mass of confused and indiscriminate lines. The instant the eye rests on a single characteristic curve, this will be the key to all the lines in the mass which (if I may so speak) belong to the same face. The fierce eyebrow will impose on the eye a mouth of the same character, which will be seen in its proper place. This case is the plainest of its class ; but all the forms of familiar things are similarly traced by the vacant eye, out of formless elements ; for these alone leave it free to the stream of association. From this, I might proceed to the phenomena of dreams ; but the subject demands a separate treatment, and must be referred to the conclusion of this Essay.

The cases so far stated to the Academy have exhibited the *simple continua-*

* The picture alluded to is the "Arran Fisherman's Drowned Child," by Burton.

tion of a process which we can trace, to further phenomena of the same apparent nature in which it cannot be so easily traced: but from which there seems no reason to exclude it, unless one which should be noticed before I venture to extend my theory to the explanation of some of the more complex operations of the intellect. This objection consists in the difficulty of attributing so many varied and continuous acts to one single conception, or moment of time. My answer to this objection (here) shall be very brief indeed, being no more than this,—that the self-same objection applies to Mr. Stewart's explanation of every example he adduces. If twenty acts of will, or attention, or reason, or any other mental process, take place in the *time of one*, the difficulty is not much diminished by saying they are *successive, instead of simultaneous*. In truth, no power of intellectual comprehension or resolution can distinctly conceive either one or the other; they are creatures of reason only. I am aware of the infinite divisibility of time, which is easily proved by the same argument which demonstrates the same proposition of a line, on the parts of which it is only necessary to conceive the idea of motion. I am also willing to assent to any proposition asserting the infinite velocity of the thoughts; I do not pretend to deny any thing on the mere ground of not being able to explain it; but I say that, so far as I can venture to assert, the proof has entirely failed. The *necessitas rei* of Mr. Stewart has no existence; and if any solution is to be tolerated of those processes of the mind which are so subtle, or so compounded, as to escape all direct analysis, there is none more likely to apply, than that which, in simpler cases, is plainly and manifestly applied to the same offices. On this point, let me recal your attention to Mr. Stewart's own argument against Hartley's theory, as I think we may now be better enabled to perceive that it equally destroys his own, while it is not applicable to that here offered. Hartley supposes the same processes, which are *voluntary* up to a certain rate of velocity, then to become automatic. Stewart very justly remarks the disadvantage of assuming two wholly different laws of action for the same processes, in different *degrees* of action. Now Mr. Stewart only escapes the same objection, by giving the same name to different things; this I have already shown. But in my own solution alone the same law is manifestly carried through, without the least abatement of its identity. Not being a summary operation, but the result of numerous operations, it does not in any way involve the principle of consciousness, more than the growth of the body involves

sensation. Unconscious from the very commencement, the combining process is no worse than unconscious at the height and depth of its remotest combinations. And if—in the indefinite progress of intellectual power, which no thinking person will venture to limit—the elemental process which generates all our registered and tangible combinations should give birth to combinations more broad, or subtle, or varied, there is no reason why we should think it necessary to say that these are beyond the limits of its office.

It is easy to perceive, as a direct consequence, that the operation which I have explained by so many examples, must react upon all our perceptions, and therefore modify the very consciousness. All that we see or hear, and every intimation of the senses, must become variously involved with suggestion,—or combined into these complex notions which I have stated as an ultimate result. This process not only supplies the *successive* trains of recollection, which will arise at the sound of a name or the sight of a place : but it will, under circumstances, identify them into that indissoluble connexion, that often gives to place its peculiar aspect, or to countenance its familiar expression. Thus it is, that to different persons, the poet, painter, geologist, or agriculturist, the same prospect of a country presents so different a scene. The whole frame of intellect and perception are altered, and all that meets the sense formed into different combinations.

In the same manner, the moral structure of the mind is affected by the same law. It would demand a separate essay to shew the precise operations by which principles recognized by the intellect, and tendencies implanted in the nature, become variously involved, so as to become inseparable in thought from circumstances, acts, and courses of conduct. For a dissertation admirably illustrative of this, I would refer to Bishop Butler's chapter on Moral Habits. I shall here content myself with pointing out an important bearing of the principle. In proportion as we act upon a determining motive, there takes place and grows a combination which identifies the motive and the action, so that the principle becomes incorporated with the moving impulse. On the other hand, the converse process takes place, when a separate attention is frequently directed to laws of conduct which are rarely carried into effect. The habit of distinctly regarding those principles and observances, in proportion as it is cultivated, tends more and more to give them separate identities in the mind ; so that the exercise of the reason becomes less and less capable of moving the active tendencies of our nature.

Hitherto the examples discussed have been more viewed as means of ascertaining a result, than for any interest of their own. I should, however, not have pursued them into so detailed a discussion, were there not applications to be made of more general interest and importance.

Before entering upon the application of the theory thus arrived at, to the explanation of more complicated phenomena, it may be advisable to clear away a slight difficulty which may otherwise appear to embarrass the language which I am compelled to use in common with other writers who have taken different views. Had I adopted a purely theoretical method, this explanation must have commenced my statement, in the regular form of definitions: the method here adopted has necessarily transferred these definitions to the conclusion: they are, in fact, the questions under discussion.

In common with Mr. Stewart's, the theory here explained involves the assertion of one law of operation pursued through different stages, in each of which, its results, though in principle the same, are apparently different, and actually tend to different uses. In these different stages, this operation has acquired different names; a circumstance which, while in ordinary language it undoubtedly contributes to clearness, tends, at the same time, to baffle the metaphysical inquirer. The river which winds through a hundred realms, is distinctly referred to these varied localities, by the hundred names, which only help to confuse the general map.

The term, *association*, is here used to signify the *process* by which ideas are combined, through all the stages of this operation. It is assumed to be the tendency of the mind to recal together, and permanently combine, oft recurring ideas or phenomena. As by repetition the effect of this tendency is increased, a consequence is that it must be experienced in different stages of progress: of these are the several classes of *suggestion*, in which one idea leads to the successive recurrence of another, which has been in *some way* associated with it. The next distinguishable stage, is that which it has been the purpose of this Essay to illustrate, and which, for distinctness, I have called *combinations*, or complex ideas of that kind *which are formed by association*.*

* There are two distinct classes of complex ideas; viz., those framed by association, and those acquired from the immediate constitution of things.

CHAPTER II.

THE SAME ARGUMENT ILLUSTRATED BY A MORE EXTENDED APPLICATION—THE ORATOR.

IN passing from cases in which the mental process approaches nearly within the ordinary range of that class of ideas, of which no one doubts the unity, it may be necessary to proceed with new caution. Hitherto our instances have had the advantage of the important character of being free from any element, not commonly recognized in single ideas : no difficulty has arisen from their *duration*, or apparent *variation* ; all, as I have endeavoured to show, being comprehended together within the *limits of duration* which appertain to single acts of thought. This last fact is especially important to be borne in mind ; as it offers the essential characteristic by which I would ascertain the *unity* of the mental process. But when I distinguish the instances now to be explained from those already offered, the distinction is only apparent. The difference in *this* respect is only just such as to present a difficulty to the apprehension : the intellectual processes are the same, and the reasoning, were it to be distinctly followed out, would be the same. This will now, however, be the less required, as I have some trust that the elementary process has been satisfactorily ascertained ; and the far more complicated nature of the example now to be noticed would render the same method hitherto followed, both tedious and difficult, and occupy an unwarrantable length of the Academy's time.

I have already endeavoured to shew, that there can be no reason for fixing any limits to the operation of the function which is known to be so active, or which has so large an ascertained compass, as the associating faculty. From the simplest commencement of its operation, where it is *merely suggestive*, to the completion of its task, when oft-repeated association is lost in the simultaneous unity of combination : from the simple combination which invests three or four letters with a moral or physical existence, to the wide and varied array of remotely related, or even discordant notions, forms, reasons, and abstractions, which, from their compass, variety, number, and even inconstant and fleeting connexions, reject the identifying stamp of a name ; all are still subject to the operation of a

subtle process which is for ever going on, the most constant as well as the most powerful of the mental functions. In this, also, essentially different from all other mental functions of which we have any distinct notion, that it is independent of all volition and consciousness; and if the illustration be allowed, that it bears to the recognizable and conscious operations of the mind a relation analogous to that which the digestive and assimilative processes bear to the voluntary powers of the frame.

There is no discoverable limit to the operation of the process here described, though it only becomes distinctly cognizable as it comes within the province of language. But before this condition is attained, and beyond the bounded compass of language, there is an endless range of unfixed, local, and transitory combinations of ideas; some belonging to real existence, and some in their nature arbitrary and unreal: all, still, in some way connected with the ordinary operations of the mind. Of this vast stock of ideal elements, the wrought and unwrought materials of thought, there is a continuous transition in the progress of association: some are connected no further than the first stage of mere suggestion—these are the ordinary masses of our casual associations, and are, by the nature of things, unlimited; some have local relations, and are peculiar to times, places, individuals, and professions—these may acquire the form of *combination* in individual minds; others, lastly, from their uniform juxta-position in reality, acquire a permanent unity, and the indissoluble stamp of a name. These last alone are universally recognized in their real character; while the unlimited multitude of casual and transitory associations, appearing in the various stages of the common process, from the remotest suggestion to the most constant identification of an inseparable unity, thus afford a *seemingly* wide scope for metaphysical discriminations and classifications—while the process throughout is uniform. In following out this varied succession of changes, there would be, however, the utmost complication, as at every point the process becomes variously subjected to the active operations of the understanding, which derives from it the entire stock of its ideas. I shall now, therefore, aim to be compendious, and for this purpose select an example which involves the utmost difficulties to which this inquiry is liable.

The intellectual habits of the public speaker have been explained by Mr. Stewart, according to the theory which I have been endeavouring to supersede. Lord Brougham has described them with the accuracy of a philosopher, and the

eloquence of a consummate orator. I quote this description, which is the more to my purpose from the metaphysical propriety of the language, which seems to indicate that Lord Brougham, had his attention been specially directed to the topics here discussed, would have followed it out to the same conclusion.* “Whoever (his Lordship writes) has observed the extraordinary feats performed by calculators, orators, rhymers, musicians—nay, by artists of all descriptions, can want no further proof of the power that man derives from the contrivances by which habits are formed in all mental exertions. The performances of the Italian Improvisatori, or makers of poetry off-hand upon any presented subject, and in almost any kind of stanza, are generally cited as the most surprising efforts in this kind. But the power of *extempore speaking* is not less singular, though more frequently displayed, at least in this country. A practised orator will declaim in measured and in various periods—will weave his discourse into one texture—form parenthesis within parenthesis—excite the passions, or move to laughter—take a turn in his discourse from an accidental interruption, making it the topic of his rhetoric for five minutes to come, and pursuing in like manner the new illustrations to which it gives rise—mould his diction with a view to attain or shun an epigrammatic point, or an alliteration, or a discord ; and all this with so much assured reliance on his own powers, and with such perfect ease to himself, that he shall even plan the next sentence while he is pronouncing off-hand the one he is engaged with, adapting each to the other, and shall look forward to the topic which is to follow, and fit in the close of the one he is handling to be its introducer ; nor shall any auditor be able to discover the least difference between this and the portion of his speech he has got off by heart, or tell the transition from the one to the other.”

In noticing the theoretical justness of the language here used, I overlook the fact that, notwithstanding his theory, Mr. Stewart's language is equally accommodated to what I consider the truth of nature ; a fact which, indeed, leads to the reflection—how much on the surface this truth is, had it been let alone. Mr. Stewart's common sense and sagacity intrude upon his ingenuity, which I must, in fairness, observe is not the characteristic of his sound understanding, and seldom

* The slight discrepancy will be accounted for by observing, that the subject occurs but incidentally in his Lordship's discourse, and that probably the outline is suggested by the perusal of Stewart.

leads him far astray from the track of observation. And it is, indeed, almost apparent from his language, that a second and more deliberate consideration would have led him to an inference, which, though opposed to his propositions, is directly involved in all his language. He had only to ask himself the question, why—having assigned so much of the very same operations to habit and association as he manifestly does—he should stop at a certain point, and not observe the strict analogy that pervades the entire work of the mind from first to last.

As the accomptant has insensibly treasured all the usual combinations of figures; as the fluent reader similarly possesses all the usual groups of letters, syllables with their wonted sounds; as the musician has the same possession of the two classes of simultaneous and successive indications of sound; so, in the separate pursuits of life, there is, incidental to every one, a peculiar range and grouping of the materials of professional avocation, all so ready at command, and so independent of separate attention and voluntary effort, as to admit to some extent of other trains of thought being at the same time engaged in. The poetical landscape painter can, with one glance of his imagination, throw together into one single whole, all the vast and boundless varieties of observed nature; the modifications of form, colour, light, and distance are at his command: sky with its blue depths and fantastic pageantry of cloudwork, earth with its varieties of hill and dale, forest and lake, from the mountain receding into etherial distance, to the flowers and weeds which diversify and animate his foreground. These, without conscious effort, roll together like new creations, at the very caprice of a moment. Nor is this all; with equal facility the groups of life, armies, processions, and all the bustle and pageantry of civil life start up in the conception, or fill an imaginary canvas with the additional incidents of representation, the adaptations of life and proportion which deceive the eye. These combinations,—and let me say, that I would not here dwell upon such a fact, did I not believe it, in different degrees, common to all minds,—offer a wide range of the most complicated conceptions of that kind which the mind most rapidly and easily throws together with the fertility of a kaleidoscope, because being mainly conversant with visible images, they demand less attention and study in their acquisition, and form a great portion of the common stock. Every one is master of a certain stock of intellectual maps of familiar places and accustomed roads, as well as pictures and portraits, which supply the office of terms. From the same compen-

dious source arise the similarly combined groups of our more purely intellectual stores. The lawyer, together with the stock of precedents, maxims, and forensic conventions and technicalities, which are to him an habitual language and rule of reason, is also possessed of his treasury of phrase, adapted to the exigency of his profession ; as he increases in practice, they grow together by the process of association, as insensibly as the muscles of the Athlete, and acquire command by training. With these he similarly obtains the habitual command of trains of considerations, which being variously adapted to the questions that engross his understanding, offer various and new points of relation to each other. These, however varied, subtle, and remote, must, in proportion as they are liable to recur in practice, become gradually arranged by some certain index of the mind with more or less familiar combinations, and, therefore, demanding a greater or less degree of separate attention to bring them together ; the less familiar demanding more distinct and separate efforts of thought, because they are either not at all, or less, involved in the common process. But still, only in proportion as the combining processes have taken place, will the operation, so lucidly described by Lord Brougham, be performed. To the more experienced mind, or the more powerful and richer intellect, vast and seemingly boundless galleries (if I may use the metaphor) of views, combined in order, and ranged in their due subordination and distance, will start at every suggestion ; and trains of reasoning, which hours are insufficient to express, will be placed like a picture before the mind. Of this, too, every mind possesses its share, but it is not given to all, or even to many, to look with a length and breadth of intellectual range that might well pass for inspiration along the chain of consequence to the remote conclusion.

Every pursuit and every character of mind has its own range, in which it gathers intellectual combinations of its own, incomprehensible to most others. It is needless, and would occupy a long discussion, to dwell on these unconscious commonplaces, the ideal or verbal associations of politicians and poets, moralists and preachers. I should use one description for all ; the science does not exist, nor perhaps the intellect to produce it, which could reduce so wide a scope of method, arrangement, and material, into a practical compendium. It would hold the place to thought which logic does to reasoning, or rhetoric to language.

But here it may be useful to guard against the suspicion that two distinct processes are confused. Let it be observed, that in the whole of the operations

to which I have adverted, I do not exclude the operation of any other process that may be insisted upon. I simply have endeavoured to place *due bounds* to an usurpation in favour of some known faculties, and to restore to another its own due jurisdiction. I am not to be understood as excluding the separate workings of attention and volition from their very observable place in every one of the operations just noticed. But what I have contended for is reducible to the nearly self-evident fact, that in the course of all habitual thoughts, there is a point where the *separateness* of associated ideas ceases to be perceived, and I say, that at the same point these separate acts of attention and volition also cease ; they are neither *necessary* nor *conceivable*, or indicated by any sign, and their assumption is, therefore, altogether gratuitous.

The orator, as he follows out the details, which appear in the perspective of his ideas, will direct the minutest attention to each as it passes in array : while he is following out this long chain, he is obviously exerting a voluntary and conscious attention to the verbal evolution of its parts. And the very same law of association which offered the first summary glance of his whole argument, operates as he proceeds, and presents similar combinations at the separate stages. With this, suggestions, which are no more than imperfect associations, are starting up in proportion to the range of the speaker's mind. But reflect what an absurd medley of processes there should be, if we admit that throughout this lengthened operation the whole chain is still retained before him by a continued succession of iterations of the same rapid series of separate attentions and volitions ; the necessary consequence of Mr. Stewart's assumption, that this chain is put together by this inconceivable operation : whereas, by the explanation which has been here offered, the formed combination is already there, lying like a text-book before a lecturer, and needing no jarring dance of *imperceptible* volitions and attentions ; volitions unwilled, and attentions unattended to : no inconceivable analysis to supersede and frustrate those fundamental operations to which, by Mr. Stewart's own repeated admissions, direct or implied, the very power of thinking at all is due.

The view here offered may be illustrated with some precision. Every one may be supposed to dwell within some circle of familiar localities which are variously combined in his memory. Within this compass a hundred roads and by-paths are within the instant command of his recollection, and as in conception

he places himself in each successive point, a wide variety of scenic combinations spontaneously arise on his mental vision, each of them filled with different successions of locality. Strictly analogous is the intellectual horizon of the practised professional speaker, within the range and compass of his habitual associations. The analogy may be further pursued even in the failures to which either is liable, when his thoughts attempt to travel out of the accustomed range : though he may possess a general knowledge of his line of road, the traveller must lose the changing combinations, the side views, and the shifting backgrounds ; while the orator, in like manner, must want the varied suggestions, and the rapid transitions, so excellently described by Lord Brougham.

His language, supplied as language is by habitual combination, will become less appropriate, flowing, and effective ; and should he not have the good sense to perceive quickly the really narrow limit of his power, and take due care to keep within its scope, he will soon become embarrassed by an effort to maintain his usual superiority.

There is another not unfamiliar affection to which unaccustomed speakers are occasionally subject, which may be considered to illustrate the elementary process in a different way. When a young speaker, in his great and earnest anxiety, instead of yielding his mind to the spontaneous processes already described, begins to exert an enforced voluntary effort, and to look for that language in one way which should be obtained in another ; a total embarrassment often seizes him, he begins to look for the path on which he should be moving, and he can see nothing more than the preconceived outline, which it had been his design to clothe variously in effective language, and with all the popular artifices of rhetoric.

In thus dwelling on the example offered in this section, I cannot but observe, that I could have selected others far more illustrative of the argument ; but I have thought it fairest and most satisfactory to pursue the subject as it has been argued by Mr. Stewart and others who have fallen into his views.

CHAPTER III.

APPLICATION TO DREAMS.

IN dreaming, the ideas which press themselves are either such as have been previously connected by association, or not. If they have not, Mr. Stewart's theory cannot be applied, nor will such cases be found illustrative of the mode of explanation adopted in this essay. Both, though in very different ways, involve the principle of association.

Cases of dreaming occur in which the succession of thought appears too capricious to be easily referred to any of the waking habits of most minds, and though even these may be, to a considerable extent, explained according to the law of suggestion, yet it will be apparent enough that they cannot be considered as cases of that succession of thoughts, which has become accelerated from the effect of frequent iteration. In these it must be observed, that the process is *directly contrary* to the process of waking reason. Awake—certain ideas are accompanied by a rapid combination (or acceleration), such as not only to facilitate the course of the thoughts in some established direction, but to prevent any other; whereas, in sleep, the occurrence of the same idea leads mostly to a *different* train, which could not well take place if the same associative (or accelerating) faculty, instead of being more alert, were not itself asleep, or nearly so; and it is very curious to observe, how the suggestions of the waking faculties change in the very process of falling asleep, so as, indeed, to indicate very clearly that the faculty which governs the connexion of our thoughts has partially at least resigned its office. The most familiar things take monstrous forms, and begin to play strange antics, which are to be noticed as tending to show that *particular* operation of habit, on which Mr. Stewart relies for his solution, to be diminished, and rendered comparatively inert in sleep, just as the other faculties are.

Now, let us see what Mr. Stewart's notion involves. The associating faculty acts in sleep with *increased energy*, and according to a *new law*.

First, it acts with increased energy, or in other words, is more awake in sleep. When awake it can only read, play the piano, or execute such operations as it has learned from *repetition*; but asleep it acquires the power of accelerating all those

thoughts over which it has no such power when awake; it can compose new novels with a rapidity unknown to Scott, and dramatize them with a facility beyond the joint efforts of Shakspeare and Garrick. No matter with what lumbering incapacity, or what inert and floundering dulness its waking thoughts may be combined, all at once in sleep, it can take the wings of Ariel and "Put a girdle round about the earth in forty minutes," or rather in the twinkling of an eye.—So much for increased energy.

But it acts according to a *new law*. Mr. Stewart says not. He meets the objection by those solutions which I have already gone through. But if these were *even granted*, the matter is not mended. For a moment, assuming Mr. Stewart's explanations to be all correct, it will yet appear that the sleeping and waking processes have the essential difference of a new law.

According to Mr. Stewart, the process of the mind, *when awake*, becomes so rapid that separate attentions and volitions grow imperceptible; if so, how does it happen that in a case of the *same supposed process in sleep they all become distinctly perceptible and conscious?*

The romance comprising a long succession of events, occurs in an instant, but all the parts of which it is composed are (according to Mr. Stewart) so separately attended to that they could not be more observed assunder, if they actually took a long period of time. Here, then, is one difference; there is not only an increase of power, but a different mode of action.

But I have another question to ask—if the assumed rapidity of ideas *does not* escape the attention, when asleep, and *does* when awake, why is not this character at least uniform? why, in fact, is it *reversed?*

Why, in sleep, do not all the other operations of habit become similarly resolved, by separate acts of attention, into their constituent parts? If this law were to be followed out into its consequences, there could be no such thing as a dream at all; thoughts would be thus resolved into their elements, and the mind could not think even for the purpose of dreaming. The case amounts to this; when awake, the effect of habit enables the mind to pursue a succession of musical notes, so fast that it cannot have a conscious perception of their separate occurrence: when asleep, it seems to have acquired a faculty the converse of this; that is, it accelerates a succession of slow operations, which, when awake, no power of conception

could so compress together in the mind ; and then it actually does perceive their separate occurrence. Now I will not undertake to deny the possibility of this mode of operation, because I do not think that any thing should be denied or affirmed without proof ; but I say the case is clearly different from the former examples with which Mr. Stewart has attempted to illustrate and explain it. The attention which follows and dilates into a history, the rapid phantasmagoria of the dream, should, by the same power, separate the letters of a word, and the components of all our perceptions. It is plain that any *acceleration* supposed in the former cases, must involve some process different from the latter, and that the result also is opposite.

But it is needless to grapple with a theory which rests on nothing at all ; the difficulties inseparable from Mr. Stewart's solution, entirely disappear when the process of habit is rightly comprehended, and directly applied.

When a complex conception, formed, as I have already explained, by the ordinary law of habit, offers itself to the mind, it presents *one undivided and simultaneous* combination. I am now to apply this principle to that class of dreams which can be considered instantaneous : to such alone the argument of this Essay extends.

I shall here for the present assume, for the assumption does not affect the argument, that there are two classes of dreams ; those which are instantaneous, and those which are not. It is of the first I am here to speak. The first and greatest difficulty affects me in common with Mr. Stewart, for whether the aggregate of ideas which passes during the explosion of a pistol shot is successive or simultaneous, it is equally hard to comprehend. They take place in *the time of a single act of thought*, and I say, that they constitute but a single act ; the nature of this I have fully explained, and it only remains to point out its probable application to this case.

In looking at a familiar combination of words, the intellect receives both the ideas of their appearance and their sense, long before the eye could have noticed all the separate letters, syllables, and words. In fact, only a part is looked at ; but the mind, which is slow to analyze its own operations, is impressed with the sense of having separately noted all. Now such is the case of the dreamer ; to understand it, no more is necessary than to recollect the observed fact, of which every one who dreams is aware,—I mean the tendency of the mind to realize its

ideas in sleep. Think of a person, and he stands before you, and with him all the most prominent associations connected with him ; these, too, appear as *objects of sense*, being *realized* to the imagination. This fact is, indeed, well worthy of attention from those ingenious writers who have investigated the subject of dreams ; and if I do not greatly err, it will be found to offer the specific principle from which all its peculiar phenomena arise. The effects of imagination cease to be distinguished from the effects of sensation. The conception, or *intellectual sign*, is in the dark isolation of sleep confounded with that thing, the presence of which it *habitually* signifies ; for though the intellect is obscured, and its action partial, yet so far as it does act, it follows the same laws of action as when awake ; but the direct and manifest result is an illusion easily understood. The shadows of things being thus invested with the conditions of seeming reality, and exempted from the interference both of sensation and will, lead to a natural illusion. The mind, deceived by the whole combination, judges as we judge in looking at a perspective deception ; the whole of the accessory ideas becoming similarly realized, modify the process. It is not the person *only* who appears, but the person doing some characteristic act ; which act carries with it the supposition of other accessories, in which may be involved the ideas of *distance* and *succession*. Thus a few characteristic facts may compose the illusory perception of a story, just as a few characteristic touches convey the illusion of a picture to the eye. The sole difficulty, indeed, which may seem to affect the entire process, is the *apparent succession and duration* ; the duration we know to be an illusion, and the succession (without duration) is resolved precisely into the common analogy of all the other examples I have noticed. There is, indeed, no reason why the idea of duration should not follow the common law of all our ideas. When awake, there is a *real* perception which is contradictory to the *illusory* perception. Asleep, the idea is subject to the general effect already stated as a common condition of the mental operations in dreaming ; with the conception in which it happens to be involved, it becomes seemingly *realized*, and consequently becomes a distinct feature of the illusion ; the *moment* has expanded into an *age*, because it seemed to embrace the occurrences of an age. If the thought of eternity should present itself, or of infinity, the imagination becomes oppressed with some vast field of darkness, or the burthen of some endless endurance. The idea of duration is subject to the same conditions by which all other ideas are affected. There is, per-

haps, no idea so apt to be held in due subordination to the reality of things ; and yet every one can at once recal cases enough in which it is liable to be variously falsified in the perspective of thought. The case of dramatic fiction may, perhaps, be considered most apposite ; a train of occurrences, which involves the idea of time, is presented ; and though the waking man is quite cognizant of the actual state of the case, yet a *latent* but operative *impression* follows the law of *habit* more quickly than the judgment of the reason ; and the conditions of a fictitious succession are sufficiently realized, to affect the imagination. To produce such illusions, in the highest perfection, is indeed the end of a subtle art, by which the poet can impose his waking dream upon the reader.

“ Qui pectus inaniter angit,
Irritat, mulcet falsis terroribus implet,
Ut magus : et modo me Thebis, modo ponit Athenis.”

But when, in sleep, a complex conception or train of ideas (for I suppose either case), involving the idea of succession, is presented, the idea then not merely affects the imagination with a latent impression—the impression takes the form of reality, and the conception becomes affected by the elements of time and space. A picture when dreamed of is likely to assume the appearance of reality, because the artifice of perspective suggests the impression of distance ; and every other combination may convey similarly some impression, which, once received as real, alters the condition of the case. And here let it be observed, there can be no controversy on the point ; however it may be explained, the idea of *duration* is *unreal* ; it must at once be admitted to be but a *component idea*—involved, to be sure, in a very curious manner well worthy of attention, but offering absolutely no obstacle to any theory in question. But having gained this point, it suggests a good deal.

First, were we to look no farther, it seems plain that the same explanation may be applied to any other ideas which may seem to form parts of a dream ; that (to use the short cut of illustration) the dream was but as a face seen in a fire, in which a few leading lines take the shape of a familiar combination, and, though imperfect, carry with them the entire of that which they partially represent. The same process (whatever it may be) which gives visible appearance to a mere idea, may be well supposed to give visionary completeness of outline to a few random touches of thought. This, let it be observed, has a very distinct parallel in the

known illusions of the pencil ; a few imperfect, but characteristic, lines can be so placed, as to convey as much as the most complete representation. But sleep seems to carry the process of deception much farther. I have, for instance, frequently observed, what must have occurred to many to notice, that in sleep the mind is strangely imposed on as to resemblances. The absurdity of the most fantastic changes and representations is seldom, if ever, noticed ; and if a dream of any supposed incidents be attentively called over after waking, it will be observed, that in many instances the impressions were not only *unreal* but false.

Little now remains to be said, so far as the topic of dreaming is involved in this inquiry. Our thoughts, as I have shown, present themselves in varied aggregations. In different minds the constituent ideas of the aggregation are diversified by the habits and intellectual constitution of the individual ; but while these aggregations are liable to be presented in sleep as in waking, there is just one condition of difference, which, without altering any of the primary laws of thought, by direct consequence changes the entire character of the result. This condition is simply the realizing of the idea. Under this operation, the slightest and most latent impression which constituted any part of the waking association, in sleep starts into shape, and becomes an efficient and distinguishable feature of the dream. A dream may thus be considered as *a picture* presented to the sleeper's fancy, sometimes full of meaning and orderly subordination, sometimes strange, fantastic, and unaccountable ; at times the object is some preconceived association, and occupies the ordinary duration of thought, but still undergoes the effect of being dramatized in all its parts, because, in fact, such a consequence is absolutely involved in its being realized ; and it is thus also that those seemingly instantaneous successions arise. Again, the *actually present* scene, or circumstances, may be part of a dream : and the sleeper will then awake under the sense of reality.

I shall now end with a few remarks upon the manner in which the ordinary law of association, considered simply as *suggestive*, may be supposed to operate in a state of sleep. For this purpose it must be observed, that the action and reaction of associations are mutual, and that, therefore, in sleep, if any moral affection of the mind is, as may happen to be, induced by some fantastic cause, it will, according to the known law of habit, immediately suggest some such occurrence as would *ordinarily* have caused it ; suppose, for example, the parts of the frame which

would be affected by violent weeping to be acted on by some cause purely physical : now, even when awake, the moral frame of mind is in some small degree liable to the species of external action here supposed ; and the fact is general ; there is no train of correlative affections either between mind or body, or between the thoughts and affections of the mind, that is not liable to commence at either end of the chain. When we are awake, this liability is regulated by the action of other causes ; the processes of the mind are subject to both the will and the senses, there can, therefore (generally speaking), be no illusion ; the scenes and occupations of reality are before us, and all the control of the active faculties is in operation. Now, to recur to the examples just given, a person, if he is of a delicate frame, may, under the influence of some nervous affection, be, even while awake, disposed to gloomy views of affairs ; but let him fall asleep—he is instantly head and ears plunged into a bottomless abyss of perils, distresses, and labours, defined or undefined, taking form in the shape of some gigantic calamity, or clouding the prospect with the obscurity of terror and inconceivable ruin. It becomes a dream, or that species of oppressive consciousness which is called a nightmare.

Now, if the images of a dream are supposed to be presented *in succession*, a very different order of phenomena from those hitherto contemplated takes place ; all, however, the result of the two main principles now stated, viz., the apparent realization of the idea, and the governing law of suggestion. The general condition will be best conceived by an illustrative method of statement ; but first let me impress the two points to be illustrated. The moment the thought occurs, the thing appears : and as every thing is likely to present some suggestion, no sooner does it appear than some new fancy starts to mind, so as to place the whole in a new relation to the dreamer. This may be exemplified : a person dreams of some friend who lives in a distant city ; the individual at once becomes present : this individual exercises some particular calling, or has habits which characterize him ; these at once are suggested and *realized* ; they absolutely imply the notion of some locality, and the locality becomes present. This implies a change of place, and at once, as if his night-cap were the wishing-cap of the fairy tale, the dreamer is transported with a thought over the intervening billows or mile-stones, and without any interruptions from collisions, explosions, or upsets, is set down in the well remembered street. No sooner is he there, than his friend, who is, perhaps, a great traveller, begins the story of some adventure in returning from the con-

tenant ; or not being very hospitably disposed, asks him by what road he means to go home. Instantly at the word, a rush of waters, and the wind roaring in the shrouds, salutes his ear ; or he is hurled away on the Liverpool railroad ; and if he had the ill luck to have looked into any of the public journals that evening, he is startled into a terrified consciousness by the explosion of a boiler, or the shock of trains rushing into collision. Such is the fantastic chainwork, in which the same laws which contribute to maintain the coherence of our waking thoughts, operate to disarrange and confuse them into the obscure phantasmagoria of dreams.

CONCLUSION.

The subject of dreams has led me somewhat beyond the strict argument of this Essay. There is, perhaps, no class of affections to which the mind is liable, so adapted for the purpose of investigation on the elementary laws of association. Mr. Stewart's chapter on the subject of dreams offers also a singularly pleasing and instructive example of that just method of philosophical induction, of which there is generally so lamentable a dearth in all inquiries respecting the intellectual faculties.

But Mr. Stewart set out with a notion, which was not merely adapted to lead him into some important errors, but altogether to shut from his view the actual law which regulates the succession of thoughts in dreaming.

I regret this the more, because, if I am not very much mistaken, I shall hereafter show, that the elementary facts illustrated in this Essay would have otherwise offered to this sound-minded inquirer, a simpler and better evidenced foundation for the whole structure and action of human reason, than has yet been fully noticed by any of those who have turned their thoughts to the subject : this I trust to be enabled to explain satisfactorily hereafter.